

RECENT FISHERY PUBLICATIONS

FISH AND WILDLIFE SERVICE PUBLICATIONS

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CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES.
FL - FISHERY LEAFLETS.

MNL - REPRINTS OF REPORTS ON FOREIGN FISHERIES.

SEP.- SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.

SSR.- FISH. - SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).

Number	Title
CFS-2908	- Alabama Landings, April 1962, 3 pp.
CFS-2927	- Maine Landings, April 1962, 4 pp.
CFS-2929	- Wisconsin Landings, April 1962, 2 pp.
CFS-2930	- Michigan Landings, March 1962, 3 pp.
CFS-2931	- Alabama Landings, May 1962, 3 pp.
CFS-2932	- North Carolina Landings, May 1962, 4 pp.
CFS-2934	- New Jersey Landings, May 1962, 4 pp.
CFS-2936	- Mississippi Landings, April 1962, 3 pp.
CFS-2937	- Florida Landings, May 1962, 9 pp.
CFS-2938	- Rhode Island Landings, April 1962, 3 pp.
CFS-2939	- Wisconsin Landings, May 1962, 2 pp.
CFS-2940	- Frozen Fish Report, June 1962, 8 pp.
CFS-2942	- Georgia Landings, May 1962, 2 pp.
CFS-2943	- Fish Meal and Oil, May 1962, 2 pp.
CFS-2944	- Massachusetts Landings, February 1962, 5 pp.
CFS-2945	- Michigan Landings, April 1962, 3 pp.
CFS-2946	- Ohio Landings, May 1962, 2 pp.
CFS-2947	- Maryland Landings, May 1962, 3 pp.
CFS-2948	- Texas Landings, April 1962, 3 pp.
CFS-2949	- New York Landings, May 1962, 4 pp.
CFS-2950	- Virginia Landings, May 1962, 3 pp.
CFS-2951	- Fish Sticks and Portions, April-June 1962, 2 pp.
CFS-2952	- Maine Landings, May 1962, 4 pp.
CFS-2953	- Shrimp Landings, February 1962, 6 pp.
CFS-2956	- North Carolina Landings, June 1962, 3 pp.
CFS-2958	- South Carolina Landings, June 1962, 2 pp.
CFS-2968	- Florida Landings, June 1962, 8 pp.
FL-23 (Revised May 1962)	- Earthworms for Bait, 5 pp.
FL-97 (Revised April 1957)	- Fish Culture as a Livelihood, 4 pp., 1959.
FL-190 (Revised April 1962)	- Turtle Trapping, 9 pp., illus.
FL-359 (Revised June 1961)	- Manufacturers of Equipment for the Fish Processing Industries, 12 pp.

FL-533 - Bibliography of Publications of the Branch of Technology, Author Index--1960, compiled by F. Bruce Sanford and Helen E. Plastino, 5 pp., February 1962. Lists in alphabetical order by author's name, publications of the Branch of Technology, Bureau of Commercial Fisheries, Fish and Wildlife Service, for 1960. Indicates where the publications appeared and if reprints are available.

FL-535 - Jellyfishes and Related Animals, by Victor L. Loosanoff, 9 pp., illus., February 1962.

Sep. No. 655 - The Blue Crab and its Fishery in Chesapeake Bay--Part 2 - Types of Gear for Hard Crab Fishing.

Sep. No. 656 - Equipment Note No. 13--Soviet Trawlers Observed in Gulf of Alaska.

SSR-Fish. No. 390 - Seasonal Occurrence of Marine Fishes in Four Shores Habitats Near Beaufort, N. C., 1957-60, by Marlin E. Tagatz and Donnie L. Dudley, 20 pp., illus., August 1961.

SSR-Fish. No. 400 - Tuna Oceanography in the Eastern Tropical Pacific, by Maurice Blackburn, 51 pp., illus., February 1962.

SSR-Fish No. 403 - Attempts to Guide Small Fish with Underwater Sound, by Clifford J. Burner and Harvey L. Moore, 33 pp., illus., February 1962. A summary of attempts to guide fish by means of subaqueous sonic vibrations. The tests were made during November and December 1947 and March and April 1949 at the Biological Station at Leetown, W. Va. The tests were limited to four undersea warfare sound-producing instruments involving three principles of sound production: electromagnetism, Piezoelectricity, and the hydraulic turbine.

SSR-Fish. No. 404 - An Oceanographic Study of the Gulf of Tehuantepec, by Maurice Blackburn, 31 pp., illus., February 1962.

SSR-Fish. No. 408 - Variability in Pink Salmon Escapements Estimated from Surveys on Foot, by William L. Sheridan, 10 pp., illus., March 1962.

SSR-Fish. No. 411 - Distribution of Fish Eggs and Larvae, Temperature, and Salinity in the Georges Bank-Gulf of Maine Area, 1955, by Robert R. Marak, John B. Colton, Jr., and Donald B. Foster, 69 pp., illus., March 1962.

SSR-Fish No. 416 - Marking Sockeye Salmon Scales by Short Periods of Starvation, by Richard L. Major and Donovan R. Craddock, 14 pp., illus., April 1962.

SSR-Fish. No. 417 - Distribution and Seasonal Movements of Saginaw Bay Fishes, by Ira A. Carr, 16 pp., illus., April 1962.

Effects of Pesticides on Fish and Wildlife, Circular 143, 57 pp., illus., printed, 1962.

Outdoor Fish Cookery, Special Fisheries Marketing Bulletin, 24 pp., illus., printed, 1961.

THE FOLLOWING MARKET NEWS LEAFLETS ARE AVAILABLE FROM THE BRANCH OF MARKET NEWS, BUREAU OF COMMERCIAL FISHERIES, U. S. FISH AND WILDLIFE SERVICE, WASHINGTON 25, D. C.

Number	Title
MNL-56	Norwegian Fisheries, 1961
MNL-58	Republic of Korea's Fishing Industry, 1961.
MNL-73	Red Sea Fishery Off Massawa, Ethiopia.

THE FOLLOWING PUBLICATIONS ARE AVAILABLE ONLY FROM THE SPECIFIC OFFICE MENTIONED.

(Baltimore) Monthly Summary--Fishery Products, June 1962, 8 pp. (Market News Service, U. S. Fish and Wildlife Service, 103 S. Gay St., Baltimore 2, Md.) Receipts of fresh- and salt-water fish and shellfish at Baltimore by species and by states and by provinces; total receipts by species and comparisons with previous periods; and wholesale prices for fresh fishery products on the Baltimore market; for the month indicated.

California Fishery Market News Monthly Summary, Part I - Fishery Products Production and Market Data, June 1962, 16 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif.) California cannery receipts of tuna and tunalike fish and other species used for canning; pack of canned tuna, tunalike fish, mackerel, and anchovies; market fish receipts at San Pedro, Santa Monica, and Eureka areas; California and Arizona imports; canned fish and frozen shrimp prices; ex-vessel prices for cannery fish; Oregon and Washington receipts (domestic and imports) of fresh and frozen tuna and tunalike fish; for the month indicated.

California Fishery Products and Byproducts Brokers and Importers, 1962 (Partial List, as Revised July 1, 1962), SP List I, 6 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif.) Contains the names and addresses of primary receivers of various types of imported fishery products and byproducts in the Los Angeles, San Diego, San Francisco, and Oakland areas.

(Chicago) Monthly Summary of Chicago's Wholesale Market Fresh and Frozen Fishery Products Receipts, Prices, and Trends, June 1962, 13 pp. (Market News Service, U. S. Fish and Wildlife Service, 565 W. Washington St., Chicago 6, Ill.) Receipts at Chicago by species and by states and provinces for fresh- and salt-water fish and shellfish; and weekly wholesale prices for fresh and frozen fishery products; for the month indicated.

English Translations of Pacific Salmon Literature (A Preliminary List), compiled by Paul T. Macy, 24 pp., processed. Literature Research Unit, U. S. Bureau of Commercial Fisheries, Biological Laboratory, 2725 Montlake Blvd., Seattle 2, Wash., March 20, 1961.

Monthly Summary of Fishery Products Production in Selected Areas of Virginia, North Carolina, and Maryland, July 1962, 4 pp. (Market News Service, U. S. Fish and Wildlife Service, 18 S. King St., Hampton, Va.) Landings of food fish and shellfish and production of crab meat and shucked oysters for the Virginia areas of Hampton Roads, Chincoteague, Lower Northern Neck, and Lower Eastern Shore; the Maryland areas of Crisfield, Cambridge, and Ocean City; and the North Carolina areas of Atlantic, Beaufort, and Morehead City; together with cumulative and comparative data on fishery products and shrimp production; for the month indicated.

New England Fisheries--Monthly Summary, June 1962 and July 1962, 21 pp. each. (Market News Service, U. S. Fish and Wildlife Service, 10 Commonwealth Pier, Boston 10, Mass.) Review of the principal New England fishery ports. Presents data on fishery landings by ports and species; industrial-fish landings and ex-vessel prices; imports; cold-storage stocks of fishery products in New England warehouses; fishery landings and ex-vessel prices for ports in Massachusetts (Boston, Gloucester, New Bedford, Provincetown, and Woods Hole), Maine (Portland and Rockland), Rhode Island (Point Judith), and Connecticut (Stonington); frozen fishery products prices to primary wholesalers at Boston, Gloucester, and New Bedford; and Boston Fish Pier and Atlantic Avenue fishery landings and ex-vessel prices by species; for the months indicated.

New York City's Wholesale Fishery Trade--Monthly Summary--April 1962, 18 pp. (Market News Service, U. S. Fish and Wildlife Service, 155 John St., New York 38, N. Y.) Includes summaries and analyses of receipts and prices on wholesale Fulton Fish Market, including both the salt- and fresh-water sections; imports entered at New York customs district; primary wholesalers' selling prices for fresh, frozen, and selected canned fishery products; marketing trends; and landings at Fulton Fish Market docks and Stonington, Conn.; for the month indicated.

(Seattle) Washington and Alaska Receipts and Landings of Fishery Products for Selected Areas and Fisheries, Monthly Summary, July 1962, 9 pp. (Market News Service, U. S. Fish and Wildlife Service, 706 Federal Office Bldg., 909 First Ave., Seattle 4, Wash.) Includes Seattle's landings by the halibut and salmon fleets reported through the exchanges; landings of halibut reported by the International Pacific Halibut Commission; landings of otter-trawl receipts reported by the Fishermen's Marketing Association of Washington; local landings by independent vessels; coastwise shipments from Alaska by scheduled and non-scheduled shipping lines and airways; imports from British Columbia via rail, motor truck, shipping lines, and ex-vessel landings; and imports from other countries through Washington customs district; for the month indicated.

The Story of the Bureau of Commercial Fisheries Biological Laboratory, Woods Hole, Massachusetts, by Paul S. Galtsoff, Circular 145, 124 pp., illus., printed, May 25, 1962. (Bureau of Commercial Fisheries, Biological Laboratory, Woods Hole, Mass.) A historical sketch of the Woods Hole Biological Laboratory, and the part Spencer Fullerton Baird, the first Commissioner of Fisheries, played in the establishment of the first marine biological station in

the United States. It discusses the scientific and marine investigations undertaken in the formative years, and gives a general outline of the research projects carried out in the laboratory and the more important contributions during the years 1887-1951. In addition to its function as a fishery research center for the North Atlantic area, in 1951 the Laboratory became the center of United States research activities sponsored by the International Commission for the Northwest Atlantic Fisheries.

THE FOLLOWING ENGLISH TRANSLATIONS OF FOREIGN LANGUAGE ARTICLES ARE AVAILABLE ONLY FROM THE U. S. FISH AND WILDLIFE SERVICE, BUREAU OF COMMERCIAL FISHERIES, AT THE INDICATED OFFICES:

101 TERMINAL ISLAND, CALIFORNIA.

The Study on the Color of the Fishing Net. I--Observations on the Passage of Fishes Through a Colored Net, by Kenji Kanda and Atushi Koike, Translation Series No. 1, 6 pp., processed. (Translated from the Japanese Bulletin of the Japanese Society of Scientific Fisheries, vol. 23, no. 10, 1958, pp. 612-616, printed.

P. O. BOX 3830, HONOLULU, HAWAII.

The Basic Types of Vertical Distribution of Copepods in the Central Pacific Ocean, by A. K. Heinrich, 6 pp., illus., processed. (Translated from the Russian Doklady Akademii Nauk SSSR, vol. 132, no. 4, 1960, pp. 921-924.)

The Horizontal Distribution of Copepods in the Central Pacific and the Factors Determining It, by A. K. Heinrich, 14 pp., illus., processed. (Translated from the Russian Trudy Instituta Okeanologii, vol. 41, 1960, pp. 31-41.)

The Surface Plankton of the Central Pacific, by A. K. Heinrich, 8 pp., illus., processed. (Translated from the Russian Trudy Instituta Okeanologii, vol. 41, 1960, pp. 42-47.)

FISHERY TECHNOLOGICAL LABORATORY
2725 MONTLAKE BLVD., SEATTLE 2, WASH.

Carbonyl Compounds in Fish as Related to the Deterioration. II--Thermal Production of Formaldehyde in Fish Flesh, by Fuyuo Ota, 8 pp., processed. (Translated from the Japanese Bulletin of the Japanese Society of Scientific Fisheries, vol. 24, no. 5, 1958, pp. 338-341.)

Rusting of Fish Products and Its Prevention, by Junsaku Nonaka, 21 pp., processed. (Translated from the Japanese Yushi Kagaku Kyokaiishi, vol. 7, no. 5, 1958, pp. 317-322.)

THE FOLLOWING SERVICE PUBLICATIONS ARE FOR SALE AND ARE AVAILABLE ONLY FROM THE SUPERINTENDENT OF DOCUMENTS, U. S. GOVERNMENT PRINTING OFFICE, WASHINGTON 25, D. C.

Determining Age of Young Haddock from Their Scales, by Albert C. Jensen and John P. Wise, Fishery Bulletin 195 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 61), pp. 439-450, illus., printed, 15 cents, 1962.

Development, Distribution, and Comparison of Rudder Fishes (KYPHOSUS SECTATRIX, Linnaeus, and K. INCISOR, Cuvier) in the Western North Atlantic, by Donald Moore, Fishery Bulletin 196 (from Fishery

Bulletin of the Fish and Wildlife Service, vol. 61), pp. 451-480, illus., printed, 30 cents, 1962.

Estimating Red Salmon Escapements by Sample Counts from Observation Towers, by Clarence Dale Becker, Fishery Bulletin 192 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 61), pp. 355-369, illus., printed, 20 cents, 1962.

Growth of the Adult Male King Crab (PARALITHODES CAMTSCHATICA, Tilesius), by Douglas D. Weber and Takashi Miyahara, Fishery Bulletin 200 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 62), pp. 53-75, illus., printed, 25 cents, 1962.

Influence of Early Maturing Females on Reproductive Potential of Columbia River Blueback Salmon (ONCORHYNCHUS NERKA), by Richard L. Major and Donovan R. Craddock, Fishery Bulletin 194 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 61), pp. 429-437, illus., printed, 15 cents, 1962.

Propagation and Distribution of Food Fishes for the Calendar Years 1959 and 1960, Statistical Digest 52, 48 pp., printed, 1962, 20 cents.

Raft Culture of Oysters in Massachusetts, by William N. Shaw, Fishery Bulletin 197 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 61), pp. 481-495, illus., printed, 20 cents, 1962. Discusses an experiment to test the possibility of growing oysters attached to rafts as a method of culture that might be useful in reviving the declining oyster industry. Describes the area involved in the experiment as to temperature, salinity, oxygen content, and pH of the water and aquatic life in the river; construction of the raft; origin of oysters used; assembling the strings of oysters; and determining the shell growth and oyster mortality. Includes also an analysis of results of shell growth rate; effects of temperature, fouling, and spawning on growth; and mortality and practical aspects of raft culture. The experiment demonstrates that raft culture is commercially feasible in Massachusetts.

Rearing Tilapia for Tuna Bait, by Thomas S. Hida, Joseph R. Harada, and Joseph E. King, Fishery Bulletin 198 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 62), pp. 1-20, illus., printed, 20 cents, 1962. Discusses the hatchery rearing of Tilapia mossambica in 1958 and 1959 at Paia, Maui, to determine if tilapia could be produced economically to supplement the supply of naturally-occurring bait fish. A description of the hatchery and its operation and the results obtained are presented. Discusses environmental conditions, chemical determinations, stocking the brooding tanks, feeding schedules, collecting the fry, and production and mortality of the young. Also discusses production of bait-size tilapia, 1958-1959; acclimatization of tilapia to sea water; utilization of tilapia as bait; and production costs.

Studies on PARORCHIS ACANTHUS (Trematoda: Digenea) as a Biological Control for the Southern Oyster Drill, THAIS HAEMASTOMA, by Nelson R. Cooley, Fishery Bulletin 201 (From Fishery Bulletin of the Fish and Wildlife Service, vol. 62), pp. 77-91, illus., printed, 20 cents, 1962.

MISCELLANEOUS PUBLICATIONS

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM. CORRESPONDENCE REGARDING PUBLICATIONS THAT FOLLOW SHOULD BE ADDRESSED TO THE RESPECTIVE ORGANIZATIONS OR PUBLISHER MENTIONED. DATA ON PRICES, IF READILY AVAILABLE, ARE SHOWN.

ADRIATIC FISH:

Kvantitativno-Kvalitativna Analiza Ribljih Naselja Kanala Srednjeg Jadrana (Quantitative-Qualitative Analysis of the Fish Populations in the Channels of the Adriatic), by S. Zupanovic, Acta Adriatica, vol. 9, no. 3, 1961, 151 pp., illus., printed in Serbo-Croatian with summary in French. Institut za Oceanografiju i Ribarstvo, Split, FNR, Yugoslavia.

Novi Podaci o Maksimalnim Duzinama Nekih Jadranskih Riba (New Data on Maximum Length of Certain Adriatic Fish), by Fabjan Grubisic, Biljeske-Notes, no. 14, 1959, 8 pp., printed in Serbo-Croatian with summary in French. Institut za Oceanografiju i Ribarstvo, Split, FNR, Yugoslavia.

Prilog Poznavanju Biologije Jadranskih Riba CHONDRICTHYES (Contribution to the Knowledge of the Biology of Adriatic Fish), by S. Zupanovic, Acta Adriatica, vol. 9, no. 4, 1961, 84 pp., illus., printed in Serbo-Croatian with summary in French. Institut za Oceanografiju i Ribarstvo, Split, FNR, Yugoslavia.

Sur La Presence de Genre RUVETTUS COCCO en Adriatique (On the Presence of the Species *Ruvettus cocco* in the Adriatic), by Dinko Morovic, Biljeske-Notes, no. 15, 1960, 8 pp., illus., printed in French with summary in Serbo-Croatian. Institut za Oceanografiju i Ribarstvo, Split, FNR, Yugoslavia.

AIRCRAFT IN FISHERIES:

"Planes Provide Yeoman Service," by Bruce Woodland and J. J. Quigley, article, Trade News, vol. 15, no. 1, July 1962, pp. 3-6, illus., printed. Department of Fisheries, Ottawa, Canada.

ALGAE:

Marine Algae From the Tropical Atlantic Ocean, V--Algae From the Lesser Antilles, by William Randolph Taylor, 21 pp., illus., printed. (Reprinted from Contributions from the United States National Herbarium, vol. 36, part 2, pp. 43-62.) U. S. National Museum, Smithsonian Institution, Washington, D.C., 1962.

"Some Fresh-Water Algae of New York," by George J. Schumacher, article, The Conservationist, vol. 16, no. 6, June-July 1962, pp. 22-25, 36, illus., printed. The Conservationist, Room 335, State Campus, Albany, N.Y.

ANCHOVETA:

Artificial Fertilization of the Eggs, and Rearing and Identification of the Larvae of the Anchoveta, CETENGRAULIS MYSTICETUS, by Edward F. Klima, Izadore Barrett, and John E. Kinnear, Inter-American Tropical Tuna Commission Bulletin, vol. 6, no. 4, 1962, 26 pp., illus., printed in English and Spanish. Inter-American Tropical Tuna Commission, La Jolla, Calif. Discusses results of a study to identify anchoveta, an important bait fish used to

capture tunas in the Eastern Tropical Pacific Ocean, from the time of hatching to about 25 mm. Describes the artificial fertilization of anchoveta eggs; and rearing of planktonic eggs and larvae. Also covers examination of field collections of anchovy larvae made shortly before, during and immediately after the anchoveta spawning season, to identify and separate the anchoveta larvae from the larvae of other anchovies, using meristic, morphometric, and anatomical characteristics.

Fecundity of the Anchoveta (CETENGRAULIS MYSTICETUS) in the Gulf of Panama, by Clifford L. Peterson, Inter-American Tropical Tuna Commission Bulletin, vol. 6, no. 2, 1961, 14 pp., illus., printed in English and Spanish. Inter-American Tropical Tuna Commission, La Jolla, Calif.

ANTIBIOTICS:

"Effects of Tetracycline Antibiotics on the Products of Anserinase Action in Chill Stored Haddock (*Gadus aeglefinus*) Muscle," by B. Sanz Perez and N. R. Jones, article, Journal of Food Science, vol. 27, no. 1, January-February 1962, pp. 69-72, illus., printed. Institute of Food Technologists, 510-522 No. Hickory St., Champaign, Ill.

AQUATIC LIFE:

"The Effects of Erosion, Silt, and other Inert Materials on Aquatic Life" (Transactions of the 2nd Seminar of Biological Problems of Water Pollution, 1959), by J. Wilson, Technical Report W60-3, pp. 269-271, printed. Robert A. Taft Sanitary Engineering Center, Public Health Service, Cincinnati, Ohio.

BARENTS SEA:

The Results of Surveys on Young Cod and Haddock in the Barents Sea During the Period 1946-1959, by A. S. Baranenkova, 13 pp., processed. (Translated from the Russian Soviet Fisheries Investigations in North European Seas, 1960, pp. 267-275.) Ministry of Agriculture, Fisheries, and Food, Fisheries Laboratory, Lowestoft, Suffolk, England, 1961.

BONITO:

Estudios Sobre la Reproduccion del "Bonito" SARDA CHILENSIS en Aguas Advacentes a la Costa Peruana. I--Desarrollo Sexual, Epoca y Caracteristicas del Desove (Studies on the Reproduction of "Bonito" *Sarda chilensis* in Waters Adjacent to the Peruvian Coast. I--Sexual Development and Characteristics of the Spawning Season), by Aurora Chirinos de Viloso, Serie de Divulgacion Cientifica No. 14, 77 pp., illus., processed in Spanish. Ministerio de Agricultura, Direccion de Pesqueria y Caza, Lima, Peru, 1960.

BRAZIL:

Informacos Sobre a Pesca Maritima no Nordeste Brasileiro--Estados do Maranhao a Bahia (Information on the Maritime Fish of North Brazil--States of Maranhao and Bahia), by Rui Simoes de Menezes, 20 pp., processed in Portuguese. Assessor de Pesca do Governo do Estado da Bahia, Caixa Postal, 1, 366, Bahia, Brazil, 1960.

CALIFORNIA:

California Fish and Game, vol. 48, no. 3, July 1962, pp. 151-211, illus., printed, single copy 75 cents. Department of Fish and Game, Printing Division,

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Documents Section, Sacramento 14, Calif. Includes, among others, the following articles: "Catch Records from the Striped Bass Sportfishery in California," by Harold K. Chadwick; "The 1960 Preseason Albacore Survey in the Northeastern Pacific Ocean," by William L. Craig and Robert H. Cane-day; "The Electrophoretic Characteristics of Albacore, Bluefin Tuna, and Kelp Bass Eye Lens Proteins," by Albert C. Smith; and "An Unusual Catch of a Large Number of Pacific Round Herring Off Long Beach, California," by John G. Carlisle, Jr.

CANADA:

Progress Reports of the Pacific Coast Stations, no. 114, 35 pp., illus., printed, 35 Canadian cents. Fisheries Research Board of Canada, Ottawa, Canada, June 1962. (Available from Queen's Printer and Controller of Stationery, Ottawa, Canada.) Includes, among others, the following articles: "Packaging Air Shipments of Fresh Fish," by F. G. Claggett; "A New Method for Unloading Fish," by S. W. Roach and J. S. M. Harrison; "Abalones in British Columbia," by D. B. Quayle; "Pollution in Coastal Waters of British Columbia," by Michael Waldichuk; and "Frozen Albacore Tuna--The Influence of Storage Conditions Prior to Freezing," by N. Tomlinson, Shirley E. Geiger, and Eve Roberts.

CANNING:

"La Industria Conservera Portuguesa" (Portuguese Fish Canning Industry), article, Industria Conservera, vol. 28, no. 275, May 1962, pp. 111-112, printed in Spanish. Union de Fabricantes de Conservas de Galicia, 41 Marques de Valladares, Vigo, Spain.

COMMUNIST CHINA:

Marine Biology in China During the Past Decade, by Tseng Ch'eng-K'wei, OTS No. 60-11, 776, 13 pp., processed, 50 cents, June 26, 1960. Technical Services, U. S. Department of Commerce, Washington 25, D. C.

CRAYFISH:

"The Female Reproductive Cycle of the Crayfish Cambarellus shufeldti: The Influence of Environmental Factors," by Mildred Eileen Lowe, article, Tulane Studies in Zoology, vol. 8, no. 6, July 14, 1961, pp. 157-176, illus., printed. Tulane University, New Orleans, La.

DEFROSTING:

"Tining av Frosne Fiskevarer" (Defrosting of Frozen Fishery Products), by Olaf Karsti, Jakob Stromme, and Torbjorn Krog, article, Fiskets Gang, vol. 48, no. 24, 1962, pp. 328-329, printed in Norwegian. Fiskets Gang, Fiskeridirektoratet, Radstuplass 10, Bergen, Norway.

DEMERSAL FISH:

"Neuere Modellvorstellungen uber die Dynamik der Grundfischbestande" (On Concepts of Models for the Dynamics in Demersal Fish Stocks), by Gotthilf Hempel and Dietrich Sahrhage, article, Berichte der Deutschen Wissenschaftlichen Kommission fur Meeresforschung, vol. 16, no. 2, 1961, pp. 51-89, printed. Deutsche Kommission fur Meeresforschung, 199 Elbchausee, Gross Flottbek, Hamburg, Germany.

DENMARK:

Journal du Conseil, vol. 27, no. 2, May 1962, pp. 119-216, illus., printed, single copy Kr. 16 (about US\$2.35). Conseil Permanent International pour l'Exploration de la Mer, Charlottenlund Slot, Denmark. (Available from Messrs. Andr. Fred. Host & Son, Bredgade, Copenhagen, Denmark.) Includes, among others, these articles: "The Use of Electronic Sector-Scanning Sonar for Following the Movements of Fish Shoals: Sea Trials on R.R.S. Discovery II," by F. R. Harden Jones and B. S. McCartney; "The Influence of Wind and Tide on the Catch by Drift Nets in the East Anglian Herring Fishery 1952-1956," by G. C. Bolster; "On the Correlation Between the Arrival and Spawning of the Norwegian Winter Herring," by Olav Aasen; "Reactions of Larval and Young Salmonids to Water of Low Oxygen Concentration," by H. M. Bishai; and "Reactions of Larval and Young Salmonids to Different Hydrogen Ion Concentrations," by H. M. Bishai.

DEPRECIATION RULES:

Depreciation Guidelines and Rules, Publications No. 456 (7-62), 59 pp., printed, 25 cents. U. S. Treasury Department, Internal Revenue Service, Washington, D. C., July 1962. (Available from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) The new Procedure, Revenue Procedure 62-21, provides basic reforms in the guideline lives for depreciation and in the administration of depreciation for tax purposes. It sets forth simpler standards and more objective rules which will facilitate adoption of rapid equipment replacement practices in keeping with current and prospective economic conditions. The new Procedure consists of 3 parts. Part I contains the new guidelines for depreciation which set forth the guideline classes and lives. Parts II and III, intended basically for use by accountants and lawyers, include the administrative procedures, and illustrative Reserve Ratio and Adjustment of Class-Life Tables and detailed instructions for their use. Also includes a group of questions and answers concerning some specific inquiries which may arise.

ELECTRIC FISH SCREENS:

"Keep Out Fish Electrically," by R. E. Dodson, article, American City, vol. 76, no. 2, pp. 95-96, printed. American City Magazine Corp., 470 Fourth Ave., New York 16, N. Y.

EUROPEAN COMMON MARKET:

Agricultural Commodities and the European Common Market (13 FAO Commodity Policy Studies), CCP 6278, 69 pp., printed, \$1.00. Food and Agriculture Organization of the United Nations, Commodities Division, Viale delle Terme di Caracalla, Rome, Italy, 1962. The purpose of this study is to provide information and some preliminary analysis with respect to the role of major agricultural commodities under the provisions of the Treaty of Rome of 1957 which created the European Common Market, and proposals under consideration for putting these provisions into effect. Includes an assessment of the possible effects of the establishment of the European Common Market on the agricultural trade of the rest of the world. Also discusses the possible consequences of the entry of the United Kingdom and the associa-

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tion of Commonwealth countries. Although fishery products and fisheries are not specifically covered, some of the general concepts may also be applicable to fisheries.

FEEDING FISH:

"A Device for Feeding Brine Shrimp to Fishes," by John G. VanDerwalker and Edward Chin, article, Transactions of the American Fisheries Society, vol. 91, no. 2, 1962, pp. 230-231, illus., printed. Secretary, American Fisheries Society, P. O. Box 483, McLean, Va.

Method of Estimating the Food Utilized by Growing Fish, by V. Ivlev, Translation Series No. 374, 10 pp., processed. (Translated from the German Zeitschrift fur Fischerei und Deren Hilfswissenschaften, vol. 9, N.E. no. 3/4, 1960, pp. 281-289.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B.C., Canada, 1961.

FISH BEHAVIOR:

An Analysis of the Mechanism of Distribution of Fish in a Temperature Gradient, by V. Ivlev, Translation Series No. 364, 8 pp., illus., processed. (Translated from the Russian Zoologicheskii Zhurnal, vol. 39, no. 4, 1960, pp. 494-499.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B.C., Canada, 1961.

"Conditioning in Fish: Effects of X-Irradiation," by Barron B. Scarborough and Robert G. Addison, article, Science, vol. 136, no. 3517, May 25, 1962, pp. 712-713, illus., printed. American Association for the Advancement of Science, 1515 Massachusetts Ave. NW., Washington 5, D. C.

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"Moisture in Fish Blocks Processed from Very Fresh Fish," by W. J. Dyer and D. I. Fraser, article, Canadian Fisherman, vol. 48, August 1961, pp. 17-19, printed. National Business Publications, Ltd., Gardenvale, Quebec, Canada.

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Artificial Fishing Reefs (Report on the Meeting Regarding Artificial Reefs, Annapolis, Md., April 28, 1960), by George M. Staples III, 20 pp., processed. Consulting Engineer, Box 66, Crisfield, Md.

FISH MEAL:

Comision Tecnica Plantas de Harina de Pescado (Technical Commission for Fish Meal Plants), Divulgacion Tecnica, 33 pp., illus., processed in Spanish. Ministerio de Fomento y Obras Publicas, Direccion de Industrias y Electricidad, Lima, Peru, 1961.

FISH ODORS:

"Speculations on Fishy Odors and Flavors," by M. E. Stansby, article, Food Technology, vol. 16, no. 4, 1962, pp. 28-32, printed. Garrard Press, 510 North Hickory, Champaign, Ill.

FISH PASSAGE:

A Study of the Upstream Passage of Anadromous Fish at Willamette Falls, with Recommendations for Improvements in Fish-Passage Facilities, by Harlan B. Holmes and Milo C. Bell, 233 pp.,

illus., processed. Oregon Fish Commission, 307 State Office Bldg., Portland, Oreg., 1960.

FISH POISONS:

"Effect of Fish Poisons on Water Supplies," by J. M. Cohen, G. A. Rourke, and R. L. Woodward, article, Journal of the American Water Works Association, no. 53, 1961, pp. 49-62, printed. American Water Works Association, 521 Fifth Ave., New York 17, N. Y.

FISH POPULATIONS:

Mathematical Model of the Fish Population Considering the Change of the Availability, by Ichiro Yamataka, Bulletin of the Japan Sea Regional Fisheries Research Laboratory No. 8, 97 pp., illus., printed in Japanese with English abstract. Japan Sea Regional Fisheries Research Laboratory, Niigata, Japan, March 1961.

"O Formakh Prispoblenii k Samoregulyatsii Chislennosti Populyatsii u Ryb." (Types of Adaptation to Self-Regulation of Population Size in Fish), by G. V. Nikol'skii. Biological Abstracts, vol. 36, no. 23, 1961, abst. no. 79139, printed. University of Pennsylvania, 3815 Walnut St., Philadelphia 4, Pa.

FISH STORAGE:

"Post-Rigor Changes in Nitrogen Distribution and Texture of Fish During Storage in Crushed Ice," by M. N. Moorjani and others, article, Food Technology, vol. 16, no. 2, February 1962, pp. 80-84, printed. The Garrard Press, 510 No. Hickory St., Champaign, Ill.

FOOD AND AGRICULTURE ORGANIZATION:

Multilingual Vocabulary and Notation for Fishery Dynamics, by S. J. Holt, 42 pp., printed. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1959.

Proceedings of the World Scientific Meeting on the Biology of Sardines and Related Species (Meeting held in Rome 14-21, September 1959), edited by H. Rosa, Jr. and Garth Murphy, vols. I, II, and III, 1,403 pp., illus., processed in English with summaries in French and Spanish. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1960. The objectives of the meeting were to appraise the status of knowledge on certain major aspects of the biology of sardines and related species, to examine and appraise the methods in research being used in the study of these aspects, and to indicate the lines along which national and international action might be developed, with a view to obtaining improvement in the methods and development of the research programs. The discussions exposed many problems, especially with regard to terminology, the study of the vulnerability and accessibility of stocks, and the identification of population units and measurements. The three volumes present the texts of contributed documents and the results of these discussions.

World Fisheries Abstracts, List of Periodicals Searched as at 31 December 1959, Supplement to vol. 12, no. 1, 11 pp., printed. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1962.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

FOODS:

Practical Food Microbiology and Technology, by Harry H. Weiser, 355 pp., illus., printed, \$11 in U. S. and \$12 foreign. The AVI Publishing Co., Inc., Westport, Conn., 1962. To emphasize a few basic concepts that are related to some of the biochemical changes induced by microorganisms from a practical viewpoint in processing certain foods is the purpose of this book. The preface points out that "obviously the composition of foods will influence the kind and nature of biochemical changes caused by microorganisms in food." Food spoilage is discussed with emphasis on appropriate control measures. Food additives, including antibiotics, are stressed because they are legally used in some cases while in other instances they may be detrimental. The role of radiation in food technology is explained and discussed. Food poisoning is emphasized because it is on the increase in spite of the sanitary measures taken at the present time. A discussion on sources and treatment of water supplies is stressed. But no attempt is made to list microbial standards for raw and processed foods because that information is available from various sources. The chapters on food and man, composition of foods, and enzymes should be of interest to any food processor or handler. Fish and fishery products are mentioned in several places. The chapter on microbiology of meats discusses briefly the preservation of fish (including icing, salting, smoking, freezing, and canning); microbiology of fish, shellfish meats, and shellfish meat products; microbiology of oysters and shellfish; inspection of oysters for harmful organisms; propagation of oysters; public aspects of oyster production; purification of oysters; survival of enteric organisms in shellfish; the biology of oysters; public health significance of paralytic shellfish poison. Since more and more of the fishery products are being packed in advanced forms of processing, this book should be of interest to processors, buyers, sellers, and users of fishery products.

--Joseph Pileggi

Symposium on Foods: Lipids and Their Oxidation, Editor, H. W. Schultz, Assistant Editors--E. A. Day and R. O. Sinnhuber, 452 pp., illus., printed, \$3 in U. S., \$3.50 foreign (includes packing). The AVI Publishing Co., Inc., Westport, Conn., 1962. The present knowledge of oxidative deterioration of lipids, particularly as related to foods, is reviewed and appraised in this book. It contains the 21 papers presented by international authorities at the second biennial Symposium on Foods arranged by the Department of Food and Dairy Technology, Oregon State University, in September 1961. Discussions which followed each of the papers are also included to provide additional information. To focus the attention of scientists on the acceptability and toxicological implications of oxidation of lipids in natural and prepared foods was the purpose of the meeting. The book is made up of 22 chapters divided into five sections. The first chapter and section introduces the subject of oxidative deterioration of food lipids. The other sections cover mechanisms and products of lipid oxidation; factors affecting lipid oxidation (includes a chapter on high-energy irradiation); autoxidation in foods (includes

a chapter on marine products); biological significance of autoxidized lipids (includes a chapter on nutritional effects and thermally polymerized fish oils). The chapter on marine products points out that "fish products are more rapidly oxidized and the reactions are more complicated than those of other foods, mainly because the kinds of fatty acids present are more highly unsaturated and more numerous." The chapter discusses fresh fish, cooked fish, frozen fish, freeze-dried fish, fish meal, fish oils, and the use of antioxidants in fish products. Of course, the book is an excellent reference work for use by all persons interested in lipids of foods generally, but anyone interested in fishery products and byproducts also will find it useful. The National Institutes of Health provided financial assistance not only for conducting the symposium, which is the basis of the book; but also for making it possible to sell the book at below the usual price.

--Joseph Pileggi

FOOD SANITATION:

General Principles of Food Sanitation, FDA Publication No. 16, 22 pp., illus., printed. (Reprinted from Microscopic-Analytical Methods of Food and Drug Control, Food and Drug Technical Bulletin No. 1, pp. 7-27.) Food and Drug Administration, U. S. Department of Health, Education, and Welfare, Washington 25, D. C. The first two chapters of Technical Bulletin No. 1 attempt to show the place of sanitation in good commercial production and to outline the general principles of factory and product control. The reprint can assist administrative and sanitation personnel in understanding basic concepts of sanitation.

FREEZING:

"Freezing on Board Fishing-Boats," by G. Giannesi, article, La Peche Maritime, vol. 40, no. 999, June 1961, pp. 382-392, illus., printed in French. La Peche Maritime, 190 Blvd. Haussmann, Paris, France.

GERMAN FEDERAL REPUBLIC:

Versuche zur Fangausweitung durch Anderung der Fangtechnik, 1958/59 (Experiments on Increasing the Catch by Variation of the Catch Technique, 1958/59), by A. v. Brandt and others, 64 pp., illus., processed in German. (Reprinted from Protokolle zur Fischereitechnik, vol. 6, no. 25, September 1959.) Institut für Netz und Materialforschung, Bundesforschungsanstalt für Fischerei, Hamburg, Germany.

Versuche zur Fangausweitung durch Aenderung der Fangtechnik, 1959/60 (Experiments on Increasing the Catch by Variation of the Catch Technique, 1959/60), 140 pp., illus., processed in German. (Reprinted from Protokolle zur Fischereitechnik, vol. 6, no. 27/28, April 1960, pp. 156-295.) Institut für Netz und Materialforschung, Bundesforschungsanstalt für Fischerei, Hamburg, Germany.

GIBRALTER:

Erläuterungen zur Bathymetrischen Karte der Strasse von Gibraltar (Explanations on the Bathymetric Map of the Strait of Gibraltar), by Gunter Giermann, Bulletin de l'Institut Oceanographique Nos. 1218A and

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

1218B, 31 pp., and 5 charts, printed in German with French and English summaries. Musée Océanographique, Monaco-Ville, Monaco, October 30, 1961.

GRAYLINGS:

Sistematika i Ekologija Lipljena Jugoslavije (The Systematics and Ecology of Graylings, Thymallus thymallus L., in Yugoslavia), by Draga Jankovic, 148 pp., illus., printed in Serbo-Croatian with English summary, Biological Institute, Belgrade, Yugoslavia, 1960.

GREAT LAKES:

"Our Stake in the Great Lakes Fisheries," by John R. Greeley, article, The Conservationist, vol. 16, no. 3, December-January 1961-62, pp. 14-15, illus., printed, single copy 50 cents. The Conservationist, Room 335, State Campus, Albany, N. Y.

HAKE:

"Analisis Bromatologico Comparativo en Merluza (MERLUCCIUS GAYI) Entera y Eviscerada (Comparative Analysis of Composition of Hake, Merluccius gayi, Whole and Eviscerated), by Omar Rojas J. and Berta Lorca P., Divulgacion Pesquera Cartilla No. 4, 22 pp., illus., processed. Departamento de Pesca y Caza, Ministerio de Agricultura, Direccion de Agricultura y Pesca, Santiago, Chile, June 1962.

HALIBUT:

"Movement of Tagged Halibut Off New England--II," by Albert C. Jensen and John P. Wise, article, Transactions of the American Fisheries Society, vol. 90, no. 4, 1961, pp. 489-490, printed. Secretary, American Fisheries Society, P. O. Box 483, McLean, Va.

HERRING:

Growth and Recruitment in the Herring of the Southern North Sea, I, by A. C. Burd; and Recruitment to the North Sea Herring Stocks, II, by D. H. Cushing, Fishery Investigations Series II, vol. 23, no. 5, 1962, 73 pp., illus., printed, \$4.50. Ministry of Agriculture, Fisheries and Food, London, England. (For sale by British Information Services, 45 Rockefeller Plaza, New York 20, N. Y.) The purpose of Part I is to show that the general pattern of the biology of the southern North Sea herring is dependent on their growth rate, and also that southern North Sea herring recruit to the adult stock at a given length, the Critical Length, irrespective of age. It discusses the distribution and the growth rates of the Downs and Bank herring stocks; the adult broods and recruit age groups of the East Anglian distributions; relationship between Calanus-preferred food of the herring--and herring growth; and recruitment to East Anglia. Part II discusses two patterns of recruitment--the prewar pattern and the post-1952 pattern; the effect of available food on recruitment; and related information. Extensive statistical data are also included.

Herring (Selected Articles from Soviet Periodicals), 158 pp., illus., printed, \$1.50. The Israel Program for Scientific Translations, Jerusalem, 1961. (For sale by the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C.) Contains translations of articles on herring, as follows: "Some Factors Determining the Abundance of Clupeidae," by A. N. Svetovidov; "Herring of the Barents

Sea," by Z. A. Borodatova; "The Catches of Small Kandalaksha Herring in Spring 1929," by I. M. Germasimov; "The Herring with Low Vertebral Count (Clupea harengus pallasi Val.) of the Barents and Kara Seas," by V. K. Esipov; "The Reproduction and Life-Cycle of the Murman Herring (Clupea harengus harengus L.)," by T. S. Rass; "Morphophysiological Characters of the Kara Sea Herring," by M. E. Makushok; "The Abundance of South Sakhalin Herring," by A. N. Probatov; "Biology of Foraging Herring Inhabiting the Waters of Southwestern Kamchatka and the Northern Kuril Islands," by I. A. Piskunov; "Distribution and Abundance of Spawning Herring Near the Eastern Coasts of the Sea of Japan," by A. N. Probatov.

ICES Herring Tagging Experiments in 1957 and 1958, by Olav Aasen and others, Rapports et Proces-Verbaux des Reunions, vol. 152, September 1961, 50 pp., illus., printed, Kr.15 (about US\$2.20). Conseil Permanent International pour l'Exploration de la Mer, Charlottenlund Slot, Denmark.

INDIA:

Fisheries of Maharashtra, 25 pp., illus., printed. Department of Fisheries, Government of Maharashtra, Sachivalaya, Bombay-32, India, April 1961.

INDUSTRIAL WASTE:

"Damage to Fish by Industrial Waste Waters," by W. Schmassmann, article, Beseitigung und Reinigung, pp. 60-71, printed in German. Beseitigung und Reinigung industrieller Abwasser, R. Oldenbourg, Munich, Germany.

INSECTICIDES:

"Aerial Forest Spraying in Canada in Relation to Effects on Aquatic Life" (Transactions of the 2nd Seminar of Biological Problems of Water Pollution, 1959), by F. E. Webb, Technical Report W60-3, pp. 66-70, printed. Robert A. Taft Sanitary Engineering Center, Public Health Service, Cincinnati, Ohio.

"Bio-Assays to Determine the Toxicity of Pesticides to Aquatic Invertebrates," by A. R. Gaufin, article, Proceedings of the 15th Industrial Waste Conference, No. 106, pp. 94-98, printed. Engineering Extension Service, Purdue University, Lafayette, Ind.

"Effects of Forest Insect Spraying on Trout and Aquatic Insects in some Montana Streams" (Transactions of the 2nd Seminar of Biological Problems of Water Pollution, 1951), by R. J. Graham, Technical Report W60-3, pp. 62-65, printed. Robert A. Taft Sanitary Engineering Center, Public Health Service, Cincinnati, Ohio.

"Effects on Young Salmon of Forest Spraying with DDT" (Transactions of the 2nd Seminar of Biological Problems of Water Pollution, 1959), by C. J. Kerswill and others, Technical Report W60-3, p. 71, printed. Robert A. Taft Sanitary Engineering Center, Public Health Service, Cincinnati, Ohio.

"Herbicides" (Transactions of the 2nd Seminar of Biological Problems of Water Pollution, 1959), by C. R. Walker, Technical Report W60-3, p. 272, printed. Robert A. Taft Sanitary Engineering Center, Public Health Service, Cincinnati, Ohio.

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"The Retention of DDT by Trout and Whitefish" (Transactions of the 2nd Seminar of Biological Problems of Water Pollution, 1959), by O. B. Cope, Technical Report W60-3, pp. 72-75, printed. Robert A. Taft Sanitary Engineering Center, Public Health Service, Cincinnati, Ohio.

"The Toxicity of Organic Phosphorus and Chlorinated Hydrocarbon Insecticides to Fish" (Transactions of the 2nd Seminar of Biological Problems of Water Pollution, 1959), by C. Henderson, Q. H. Pickering, and C. M. Tarzwell, Technical Report W60-3, pp. 76-88, printed. Robert A. Taft Sanitary Engineering Center, Public Health Service, Cincinnati, Ohio.

"Toxicity of Various Herbicidal Materials to Fishes" (Transactions of the 2nd Seminar of Biological Problems of Water Pollution, 1959), by C. E. Bond, R. H. Lewis, and J. L. Fryer, Technical Report W60-3, pp. 96-101, printed. Robert A. Taft Sanitary Engineering Center, Public Health Service, Cincinnati, Ohio.

"Toxicological Investigations on Insecticides in Water," by G. Bringmann and R. Kuhn, article, Gesundheits-Ingenieur, no. 81, pp. 243-244, printed in German. R. Oldenbourg, G.m.b.H., Munich 1, Germany.

IRELAND:

The Eighth Annual Report and Accounts of the Sea Fisheries Board for the Year Ended March 31, 1960, 27 pp., illus., printed in Irish and English. An Bord Iascaigh Mhara, 67 Lower Mount St., Dublin 2, Ireland.

The Ninth Annual Report and Accounts of the Sea Fisheries Board for the Year Ended March 31, 1961, 27 pp., illus., printed in Irish and English. An Bord Iascaigh Mhara, 67 Lower Mount St., Dublin 2, Ireland. Discusses boats and gear, grants and reduced interest rates for new fishing craft, operation of vessels by the Board, offshore vessels, marketing, shellfish, mussel transplantation, fish processing stations, ice making plants, fishing industry development fund, exploratory fishing vessel, fish meal plant, promotional activities, and training programs. Includes balance sheets for the various accounts administered by the Board.

JAPAN:

Bulletin of the Faculty of Fisheries, Hokkaido University, vol. 12, no. 1, May 1961, pp. 1-92, illus., printed in Japanese with summaries in English. Faculty of Fisheries, Hokkaido University, Hakodate, Japan. Contains, among others, the following papers: "III--Acid-Soluble Nucleotides in Muscle of Marine Invertebrates. Acid-Soluble Nucleotides in Foot and Adductor Muscles of Sea Shells," by Ken-ichi Arai, Tomoe Furukawa, and Tsuneyuki Saito; "Studies on Marine Agar-Digesting Bacteria," by Takahisa Kimura; "A Method for Rapid Detection of Alginic Acid-Digesting Bacteria," by Takahisa Kimura; "The Effects of Underwater Explosions for the Purpose of Killing Predacious Fishes," by Toshiro Kuroki and Kazumi Kumanda; "Studies on the Compounds Specific for Each Group of Marine Algae. I--Presence of Char-

acteristic Ultraviolet Absorbing Material in Rhodophyceae," by Isami Tsujino and Tsuneyuki Saito; and "Studies on the Compounds Specific for Each Group of Marine Algae. II--Extraction and Isolation of Characteristic Ultraviolet Absorbing Material in Rhodophyceae," by Isami Tsujino.

Bulletin of the Faculty of Fisheries, Hokkaido University, vol. 12, no. 2, August 1961, pp. 93-159, illus., printed in Japanese with summaries in English. Faculty of Fisheries, Hokkaido University, Hakodate, Japan. Contains, among others, the following papers: "Exploratory Fishing of Salmon with Gill Nets of Various Mesh Sizes and with a Trammel Net in Aleutian Waters 1957," by Takeji Fujii and others; "Biochemical Studies on Muscle of Sea Animals. I--On Adenylic Acid in the Boiled Liquor with the Muscle of Scallop, *Pecten yessoensis*," by Atsushi Iida, Isao Araki, and Kiichi Murata; "Larvae and Young of the Sand-Lance (*Ammodytes hexapterus* Pallas) from the North Pacific," by Kiuy Kobayashi; and "Studies on Soluble Alginates. III--On the Metachromasy of the Soluble Alginates Lithium Alginate, Sodium Alginate, Potassium Alginate," by Miki Oguro.

Bulletin of the Faculty of Fisheries, Hokkaido University, vol. 12, no. 3, November 1961, pp. 161-245, illus., printed in Japanese with summaries in English. Faculty of Fisheries, Hokkaido University, Hakodate, Japan. Contains, among others, the following papers: "Fatty Oil from Shellfish," by Hisanao Igarashi, Koichi Zama, and Kozo Takama; "Biochemical Studies on the Muscle of Sea Animals. II--On Color-Evaluation of Hotate-kaibashira made of Adductor Muscle of Scallop (*Pecten yessoensis*)," by Atsushi Iida and others; "Notes on the Blood of Masu Salmon (*Oncorhynchus masou*) during Up-Stream Migration for Spawning, with Special Reference to the Osmoconcentration," by Tatsuro Kubo; "Enzymatic Studies on the Muscle of Aquatic Animals. 3--The Effect of Various Inhibitors on Aerobic Glycolysis of Fish (*Cyprinidae*) and Squid (*Ommastrephes sloani pacificus*) Muscle," by Takeshi Shibata; and "Chemical Studies on the Meat of Abalone (*Haliotis discus hannai* Ino)--I," by Eiichi Tanikawa and Jiro Yamashita.

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Memoirs of the Faculty of Fisheries, Hokkaido University, vol. 9, no. 2, 1961, pp. 85-226, illus., printed. The Faculty of Fisheries, Hokkaido University, Hakodate, Japan. Contains, among others, the following papers: "Studies on Bound Water in Fish Muscle," by Minoru Akiba; and "Studies on the Structure and Growth of the Scales in the Goldfish," by Juro Yamada.

KELP:

"Sublittoral Ecology of Kelp Beds of the Open Coast Area Near Carmel, California," by James H. Mc-

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Lean, article, The Biological Bulletin, vol. 122, no. 1, February 1962, pp. 95-114, printed. Marine Biological Laboratory, Woods Hole, Mass.

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"New Methods of Analyzing Industrial Aliphatic Lipids," by Helmut K. Mangold and Rudolf Kammereck, article, Journal of the American Oil Chemists' Society, vol. 39, no. 4, April 1962, pp. 201-206, illus., printed. American Oil Chemists' Society, 35 East Wacker Dr., Chicago 1, Ill.

LOBSTERS:

"Carbon Dioxide Fixation in Lobster Nerve," by Szechuh Cheng and Heinrich Waelsch, article, Science, vol. 136, June 1962, pp. 782-783, printed. American Association for the Advancement of Science, 1515 Massachusetts Ave. NW., Washington 5, D. C.

A Contribution to the Bionomics of the Lobster (HOM-ARUS VULGARIS Edw.) on the Coast of North Wales, by A. C. Simpson, Fishery Investigations Series II, vol. 23, no. 7, 1961, 31 pp., illus., printed, \$2.10. Ministry of Agriculture, Fisheries and Food, London, England. (For sale by British Information Services, 45 Rockefeller Plaza, New York 20, N. Y.) Covers investigations, made in conjunction with a survey of the Welsh lobster fishery, to initiate a program of research on the bionomics and population dynamics of the lobster in the main lobster fishing areas of England and Wales. Discusses body measurements of the lobster, increase in length of the lobster on molting, time of hatching and laying eggs, time of molting, and size at first maturity. Discusses also the random feeding movements of lobsters as well as mortality rates.

"Effect of Acetylcholine on the Electrical Activity of Somatic Nerves of the Lobster," by Wolf D. Dettbarn and Floyd A. Davis, article, Science, vol. 136, no. 3517, May 25, 1962, pp. 716-717, illus., printed. American Association for the Advancement of Science, 1515 Massachusetts Ave. NW., Washington 5, D. C.

Trampas Langosteras (Lobster-Fishing Traps), by Frank E. Firth, Divulgacion Pesquera Cartilla No. 3, 23 pp., illus., processed. (Translation of FL 64, Construction and Operation of Lobster Fishing Gear). Departamento de Pesca y Caza, Ministerio de Agricultura, Direccion de Agricultura y Pesca, Santiago, Chile, June 1962.

MALAYA:

Malayan Offshore Trawling Grounds (The Experimental and Exploratory Fishing Cruises of the F.R.V. Manihine in Malayan and Borneo Waters, 1955-56 with a Note on Temperatures and Salinities in the Singapore Strait), by F. D. Ommanney, Fishery Publications No. 18, 1961, 98 pp., illus., printed. £1 16s. (about US\$5). Her Majesty's Stationery Office, York House, Kingsway, London WC2, England, 1962.

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The Process of Marine Fouling, by N. G. Lignau, Trans-8, 38 pp., illus., processed. (Translated from the Russian Russische Hydrobiologische Zeitschrift, vol. 2-3, no. 11-12, pp. 280-290 and vol. 4-5, no. 1-2, pp. 1-10.) U. S. Navy Hydrographic Office, Washington, D. C., 1961.

MIGRATORY FISH:

"River Utilization and the Preservation of Migratory Fish Life," by G. Baxter, article, Proceedings of the Institution of Civil Engineers No. 18, pp. 225-243, printed. Institution of Civil Engineers, Great George St., Westminster, London SW1, England.

MONACO:

Prospection Biologique Sous-Marine dans la Region de Villefranche-sur-Mer en Juillet-Aout 1960 (Biological Observations Made by a Bathyscaph Near Villefranche-sur-Mer in July-August 1960), by G. Tre-gouboff, Bulletin de l'Institut Oceanographique No. 1220, 16 pp., illus., printed in French with English summary. Musee Oceanographique, Monaco-Ville, Monaco, November 7, 1961.

NETS:

"Les Filets Tournants a Thons sur les Cotes Fran-caises de la Mediterranee" (Purse Seines Along the French Mediterranean Coasts), by M. S. di Meglio, article, La Peche Maritime, vol. 41, no. 1011, June 1962, pp. 419-421, illus., printed in French. La Peche Maritime, 190 Blvd. Haussmann, Paris, France

NEW ZEALAND:

Fisheries Research in the East Cape Area (Paper Presented at the Royal Society of New Zealand Ninth Science Congress 1960), by M. K. McKenzie, New Zealand Marine Department, Fisheries Technical Report No. 3, 13 pp., illus., processed. New Zealand Marine Department, Wellington, New Zealand, 1961.

Report of the Marine Department for the Year Ended 31 March 1962, 53 pp., printed. Marine Department, Wellington, New Zealand, 1962. Covers the activities and accomplishments of the Marine Department, including a report on fisheries for 1961. The latter discusses the quantity and value of fish and shell-fish landings, fishing vessels, total landings at various ports, foreign trade in fishery products, and fish-liver oil production. It also discusses the whaling season, oysters, mussels, fresh-water and marine research, and fishery legislation. A number of statistical tables are included.

NIGERIA:

Fish Production and Marketing From the Nigerian Shores of Lake Chad, 1960-61, by M. J. Mann, Occasional Paper No. 4, 54 pp., processed. Federal Fisheries Service, Ministry of Economic Development, Lagos, Nigeria, 1962. Covers an economic survey of the fishery resources of the Nigerian sector of Lake Chad. Includes data on the hydrology and geography of the region; fishing techniques; processing and packaging of fish; insect infestation of fishery products; marketing channels and major trade routes for fishery products; and annual level of production. Also includes statistical tables on catches of set-nets; weights of contents of various packages of fishery products; costs of transport of packages of fish; quantities of imported and exported fishery products; and related data.

NORTH BORNEO:

The Fresh-Water Fishes of North Borneo, by Robert F. Inger and Chin Phui Kong, 268 pp., illus., printed, \$6.50. Chicago National History Museum, Chicago, 5, Ill. Presents basic information on species now known in such a way that data can be used by future reviewers of the various groups.

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Fiskefartoyers Lonnsomhet i 1960, Arsresultater" (Fishing Vessel Profits in 1960--Annual Data), article, Fiskets Gang, vol. 48, no. 26, June 28, 1962, pp. 353-362; no. 27, July 5, 1962, pp. 371-378, printed in Norwegian. Fiskets Gang, Fiskeridirektoratet, Radstuplass 10, Bergen, Norway.

Noen økonomiske undersøkelser angående Norges fiskerier i 1930-arene (Economic Research Concerning Norwegian Fisheries During 1930), by Ingvar Wedervang and Gerhard Meidell Gerhardsen, Fiskeridirektoratets Skrifter, Serie Fiskeri, vol. IV., no. 5, 109 pp., illus., printed in Norwegian. Sene Teknologiske Undersøkelser Undersok, Director of Fisheries, Bergen, Norway, 1961.

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An International Directory of Oceanographers (third edition), compiled by K. O. Emery and Mary Sears, 181 pp., printed. Committee on Oceanography of the National Academy of Sciences, National Research Council, Washington, D. C., 1960.

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The Government-Industry Cooperative Oyster Research Program. Part I--History and Methodology, by Amihud Kramer and others, 14 pp., illus., printed. (Reprinted from the Journal of the Association of Official Agricultural Chemists, vol. 45, no. 2, May 1962.) Association of Official Agricultural Chemists, P. O. Box 540, Benjamin Franklin Station, Washington 4, D. C. This is the first of four parts of the final report of the Government-Industry Cooperative Oyster Research Program (GICORP), sponsored jointly by the Fish and Wildlife Service, the Food and Drug Administration, and the Oyster Institute of North America. GICORP was organized for the purpose of establishing the composition of the oyster in its "native" state, and the changes that occur as a result of processing, packing, and marketing. Discusses the objectives of GICORP, definition of oyster identity, and chemical, physical, and physiological methods to measure oyster identity.

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fragile and brittle products and of maintaining oxygen level below 2 percent and moisture content below 3 percent. Where products are extremely sensitive to enzymatic activity, lower levels are essential and inpackage desiccants can be used. Most producers use nitrogen to flush the container before inserting the freeze-dried food.

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Continuous Plankton Records: The Distribution of Young SEBASTES MARINUS (L.), by G. T. D. Henderson, 22 pp., illus., printed, 7s. (98 U. S. cents). (Reprinted from Bulletins of Marine Ecology, vol. 5, no. 46, December 1961, pp. 173-193.) Officer in Charge, Oceanographic Laboratory, 78 Craighall Rd., Edinburgh 5, Scotland.

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Use of the Hardy Continuous Plankton Recorder in a Fishery Research Programme, by John B. Colton and Robert R. Marak, 16 pp., illus., printed, 10s. (US\$1.40). (Reprinted from Bulletins of Marine Ecology, vol. 5, no. 49, January 1962, pp. 231-246.) Officer in Charge, Oceanographic Laboratory, 78 Craighall Rd., Edinburgh 5, Scotland.

Zooplankton in Relation to Herring in the Norwegian Sea, June 1959, by Ulf Lie, 12 pp., illus., printed. (Reprinted from Fiskeridirektoratets Skrifter, Serie Havundersokelser, vol. 13, no. 1.) Fiskeridirektoratet, Bergen, Norway, 1961.

PONDS AND LAKES FISHERY MANAGEMENT:

Management of Artificial Lakes and Ponds, by George W. Bennett, 300 pp., illus., printed, \$8. Reinhold Publishing Corporation, 430 Park Ave., New York 22, N. Y., 1962. The author has included the most recent scientific advances and practical techniques in artificial lake and pond management. For those interested in a comprehensive and integrated presentation of the dynamics and management of warm-water fish populations in artificial lakes and ponds, this is just the book. Students, researchers, and professional workers will find that the development of the subject is broad in scope, and well suited to their needs. The foreword interestingly points out that "Much of man's activity, either indirectly or directly, is aimed at manipulating populations." Among the examples cited is the work going on in the Great Lakes area of North America where man wishes to increase the numbers of lake trout and at the same time destroy the sea lamprey, a trout predator. The change from the "art" of management to the "science" of management is a new phenomenon which has appeared within the present century. In my opinion, the author has attempted and succeeded in bringing together and giving meaning to fish management knowledge which has been hidden in the literature and has had no meaning to the non-specialist. Specific directions, such as, for example, how to stock a lake, have been avoided. The book shows the range of reasonable stocking and its relationship to the range of potential results. A brief and concise view of fish culture is presented first. Next, artificial aquatic habitats are distinguished from natural bodies of water, are described, and categorized as much as possible. This is followed by an examination of the ecological interrelationships of fish and lake habitats and a discussion of the implications for the professional manager. Then there is a fairly thorough treatment of such large concepts as carrying capacity, productivity, growth, reproduction, competition, and predation. After discussing the theory and techniques of management, the complex problems of fishing mortality and natural mortality are taken up. The last few chapters deal with sensory perception and behavior in sport fishing and its commercial aspects. Technical terminology has been reduced to a minimum and the mathematical approach to population dynamics has been left to a listing of papers on the subject. The text of the book does not show the scientific names of the fish mentioned; however, the scientific names and the common names of all the fish mentioned appear in the Appendix. The book has a good index, and is well documented. Pond owners, professional fishery biologists, limnologists, conservation workers, government fishery experts and administrators, fishermen, and students of aquatic biology and fishery management will find the book of considerable interest and value.

--Joseph Pileggi

PORTUGAL:

Gremio dos Armadores de Navios da Pesca do Bacalhau, Relatorio e Contas do Exercício de 1961 e Orcamento para 1962 (Cod Fishing Vessel Owners' Guild, Statement of Operations for 1961 and Budget for 1962), 34 pp., printed in Portuguese. Comissao Revisora de Conta, Lisbon, Portugal, February 17, 1962.

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Gremio dos Armadores da Pesca de Arrasto, Relatório e Contas do Exercício de 1961 e Orcamento para 1962 (Trawler Owners' Guild, Statement of Operations for 1961 and Budget for 1962), 40 pp., printed in Portuguese. Comissao Revisora de Contas, Lisbon, Portugal, 1962.

Gremio dos Armadores da Pesca da Baleia, Relatório e Contas do Exercício de 1961 e Orcamento para 1962 (Whaling Vessel Owners' Guild, Report of Operations in 1961 and Budget for 1962), 33 pp., printed in Portuguese. Comissao Revisora de Contas, Lisbon, Portugal, February 24, 1962.

Gremio dos Armadores da Pesca da Sardinha, Relatório e Contas do Exercício de 1961 e Orcamento para 1962 (Sardine Fishing Vessel Owners' Guild, Statement of Operations for 1961 and Budget for 1962), 20 pp., printed in Portuguese. Comissao Revisora de Contas, Lisbon, Portugal, January 26, 1962.

PREDATORS:

Predator-Prey Relationships Between Fish-Eating Birds and Atlantic Salmon (With a Supplement on Fundamentals of Merganser Control), by P. F. Elson, Bulletin of the Fisheries Research Board of Canada No. 133, 87 pp., printed, C\$1.00. Fisheries Research Board of Canada, Ottawa, Canada, 1962. (Available from Queen's Printer and Controller of Stationery, Ottawa, Canada.)

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"Preservation of Fish by Antibiotics and by Penetrating Radiations," by H. L. A. Tarr, article, Fishing News International, vol. 1, no. 1, October 1961, pp. 17-20, and vol. 1, no. 2, January 1962, pp. 46-48, illus., printed. Arthur J. Heighway Publications, Ltd., Ludgate House, 110 Fleet St., London EC4, England.

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"Hagnyting Fiskaflans, 1961" (Processing of the Fish Catch, 1961), article, Aegir, vol. 55, no. 11, June 1962, pp. 217-221, printed in Icelandic. Aegir, Fiskifelag Islands, Reykjavik, Iceland.

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Radiation-Processed Foods as a Component of the Armed Forces Feeding Systems, AD 268 479, 94 pp., printed, \$2.25. Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C., August 1961.

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Detail Specifications for Building Oceanographic Research Ship AGS, 377 pp., and Modification Nos. 1 & 2 to Detail Specifications for Building Oceanographic Research Ship AGOR (formerly AGS), 24 pp. and 9 pp., respectively, processed. U. S. Department of the Navy, Bureau of Ships, Washington 25, D. C., Dec. 22, 1958, Feb. 24, 1960, and Mar. 25, 1960, respectively.

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Acclimatization of Pacific Salmon in the Barents and White Seas, by A. Isaev, Translation Series No. 361, 7 pp., processed. (Translated from the Russian Voprosy Ikhtiologii, vol. 1, no. 1(18), 1961, pp. 46-51.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B.C., Canada, 1961.

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Marine Tagging of Fraser River Sockeye Salmon, by L. A. Verhoeven and E. B. Davidoff, Bulletin XIII, 132 pp., illus., printed. International Pacific Salmon Fisheries Commission, New Westminster, B.C., Canada, 1962.

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Sur Une Alteration des Caracteristiques d'Age des Populations de Sardine Pechees au Nord du Portugal (On the Change in Age Characteristics of Sardine Populations Fished in Northern Portugal), by J. Amorim Machado-Cruz, Publicacoes do Instituto de Zoologia No. 73, 13 pp., illus., printed in French. (Reprinted from *Anais da Faculdade de Ciencias do Porto*, vol. XLIII.) Instituto de Zoologia, Faculdade de Ciencias do Porto, 108 Rua Formosa, Porto, Portugal, 1960.

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Gulf of St. Lawrence Scallop Explorations, 1961, by N. Bourne and A. McIver, Circular No. 35, 4 pp., printed. Fisheries Research Board of Canada, Biological Station, St. Andrews, N.B., Canada, 1962.

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"What You Should Know About Sharks (Part 2)," by Ednard Waldo, article, *Louisiana Conservationist*, vol. 14, nos. 7-8, July-August 1962, pp. 6-8, illus., printed. Louisiana Wild Life and Fisheries Com-

mission, Wild Life and Fisheries Bldg., 400 Royal St., New Orleans 16, La. This is the second part of an article on sharks. Describes primarily the characteristics of sharks' teeth. Discusses variations of teeth found in different species, power of the teeth and how this power is used as a weapon for attack and defense, citing several examples. Also lists the common species of sharks, giving their common and scientific names, and their maximum sizes.

SHRIMP:

Dados Sobre Modificacao do Peso do Camarao, Provocada Pelo Metodo de Conservacao Empregado no Entrepasto de Pesca de Cananea (Data on Changes of Weight in the Shrimp Induced by a Conservation Method Used at the Fishery Rearing Station of Cananea), by Victor Sadowski and Alexandre Radasewski, no. 147, 5 pp., illus., processed in Portuguese. (Reprinted from Universidade de Sao Paulo *Contribuicoes Avulsas do Instituto Oceanografico, Tecnologia No. 1*, 1960.) Universidade de Sao Paulo, Instituto Oceanografico, Sao Paulo, Brazil, 1960.

"Shrimp Fleet Blessing--Colorful Louisiana Ceremony," by Jack Britt, article, *Louisiana Conservationist*, vol. 14, nos. 7-8, July-August 1962, pp. 12-13, illus., printed. Louisiana Wild Life and Fisheries Commission, Wild Life and Fisheries Bldg., 400 Royal St., New Orleans 16, La.

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SMALL BUSINESS MANAGEMENT:

Electric Motor Maintenance for Small Plants, Technical Aids No. 80, 4 pp., printed. Small Business Administration, Washington 25, D. C. The common causes of electric motor trouble are identified and some of the ways to keep electric motors running are discussed. Electric motors, like any other equipment, can only be maintained economically when they are fitted for the service they are expected to perform. Whether AC or DC motors are selected to run the machinery, they must be properly applied and correctly installed. Only then can proper maintenance reduce the chances of motor failure and the accompanying costs in repairs.

Problems and Prospects of South Carolina Food Processors, by Olin S. Pugh, Robert L. King, and W. F. Putman, Management Research Summary, 4 pp., processed. Small Business Administration, Washington 25, D. C., April 1962. A summary of a report on problems and prospects of South Carolina food processors. The findings of the report represent extensive research in the over-all aspects of food processing in South Carolina. Besides providing a factual analysis of the State's food processing industries, the study aimed to determine the managing, marketing, and operating problems of the eight major categories of the food and kindred products industries, how they were being resolved, and what the future prospects were.

Sound Objectives Help Build Profits, Management Aids No. 142, by T. Stanley Gallager, 4 pp., printed. Small

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Business Administration, Washington 25, D. C. A report on how sound objectives help build profits. It discusses the desirability of formulating and formalizing company goals, as well as the continuing need for reviewing such objectives in order to keep them current and sound. By setting up specific business objectives, small businessmen can provide their organizations with an efficient blueprint to guide company progress in an orderly manner. By reviewing objectives periodically, small businessmen can learn: (1) whether their objectives need to be adjusted, and (2) what, if any, policy and procedure changes are needed in order to achieve current goals.

SNAPPER:

The Shark Bay Fishery on Snapper (CHRYSOPHRYS UNICOLOR), by B. K. Bowen, Report I, 18 pp., illus., printed. Fisheries Department, 108 Adelaide Terrace, Perth, Australia, 1961.

SOUTH AFRICA REPUBLIC:

Fishing Industry Research Institute (Fourteenth Annual Report of the Director, 1 January-31 December 1960), 47 pp., illus., printed. Fishing Industry Research Institute, University of Cape Town, Rondebosch, South Africa. Discusses part played by the Fishing Industry Research Institute of Cape Town in solving factory production problems and in research on the scientific background to fish processing. Outlines investigations undertaken by the Institute on fresh and frozen fish; salted and dried fish; fish canning; fish sausage; use of fish flour as the basis for new food products; fish meal; and stickwater recovery. The primary emphasis of research was on fish meal and fish oils; variation of fish meal composition during production; moisture distribution vs. particle size of fish meals; methods of estimating the digestibility of fish meals; available lysine in fish meal; oxidation of fish oils; drying of fish oils with silica gel; and apparatus for spontaneous heating tests. Also discusses routine chemical and bacteriological analyses as well as routine investigations on frozen fish; frozen rock lobster tails for export; canned fish and rock lobster; fish meal sampling and supervision of loading; fish meal bags; and tomato paste.

Index to the Publications of the Fishing Industry Research for the First Ten Years 1947-1957, by J. S. Dunn, 63 pp., printed. Fishery Industry Research Institute, Cape Town, South Africa Republic, 1958.

SOUTH DAKOTA:

Fishes of South Dakota, by Reeve M. Bailey and Marvin O. Allum, 131 pp., illus., printed, \$2.50. University of Michigan, Museum of Zoology, Ann Arbor, Mich. It gives a short history of South Dakota ichthyology, collecting stations, and annotated list of fish.

SPAIN:

Sobre Algunos Peces Poco Frecuentes o Desconocidos en la Costa Vasca (On Some Rare and Unknown Fish on the Basque Coast), by Jose Mari Navaz y Sanz, Publication No. 14, 57 pp., illus., printed in Spanish. Sociedad de Oceanografía de Guipuzcoa, San Sebastian, Spain, 1961.

SPINY LOBSTERS:

"The Freezing of Spiny Lobster Tails," by J. Deniel and J. Nouy, article, La Peche Maritime, vol. 40, no. 999, June 1961, pp. 402-412, illus., printed in French. La Peche Maritime, 190 Blvd. Haussmann, Paris, France.

"On the Occurrence of the Spiny Lobster, Panulirus dasypus (H. Milne-Edwards) in Bombay Waters, with a Note on the Systematics of Bombay Lobsters," by B. F. Chhapgar and S. K. Deshmukh, article, Journal of the Bombay Natural History Society, vol. 58, no. 3, December 1961, pp. 632-638, illus., printed. Bombay Natural History Society, 91 Walkeshwar Rd., Bombay 6, India.

STANDARDS:

Index to Microscopic-Analytical Methods in Food and Drug Control, Food and Drug Technical Bulletin No. 1, 14 pp., printed. Food and Drug Administration, U. S. Department of Health, Education, and Welfare, Washington 25, D. C., 1962. An index to Technical Bulletin No. 1, entitled "Microscopic-Analytical Methods in Food and Drug Control," which discusses the latest methods for microscopic identification of contaminants in foods and drugs and is designed to help analysts trace adulterants to their sources.

STURGEON:

The Lake Sturgeon, by W. J. K. Harkness and J. R. Dymond, illus., printed. The Ontario Department of Lands and Forests, Toronto, Ontario, Canada. This account of the lake sturgeon covers distribution, habits, food, growth, reproduction, artificial propagation, fishing methods, the fishery itself, and conservation of the species. The largest lake sturgeon of which there is authentic record weighed 310 pounds. It was caught in Batchewana Bay, Lake Superior, in 1922, and a more recent fish of the same weight was caught in Lake Michigan in 1943. Each was nearly eight feet long. Larger ones are reported to have been taken in earlier times, but their weight cannot be authenticated. The lake sturgeon has much larger relatives; a white Oregon sturgeon taken in the Columbia River was 12.5 feet long and weighed 1,285 pounds. Prejudice against eating sturgeon seems to have been based partly on the fact that many people did not know how to prepare it, although French Canadians are said to have used it for bouillon and also to have pickled it. Much of the low opinion of the species, however, was based on its destructiveness to nets and worthlessness as a commercial fish as well as to the belief that it was destructive to more valuable food fish. It was the practice of smoking sturgeon and the use of their roe in making caviar that led to an active demand, and by 1880 the sturgeon fishery had become an important branch of the fishing industry.

TEXAS:

A Checklist of Texas Fresh-Water Fishes, by Clark Hubbs, IF Series-No. 3, 12 pp., printed. Division of Inland Fisheries, Texas Game and Fish Commission, Austin, Tex., revised December 1958.

TEXTURE OF FISH:

"Development of an Instrument for Evaluating Texture of Fishery Products," by John A. Dassow, Lynne

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In Defense of Certain Conditions in the Designing of Fishing Trawlers, by E. Muragin, O.N.I. Translation No. 852, 9 pp., processed. (Translated from the Russian Rybnoe Khoziaistvo, vol. 11, 1960, pp. 27-33.) Office of Naval Intelligence, Translations Section, Washington 25, D. C.

"Lord Nelson, First British Trawler with Partial Freezing, has an Aft Ramp," by M.B.F. Ranken, article, La Peche Maritime, vol. 40, no. 999, June 1961, pp. 393-397, illus., printed in French. La Peche Maritime, 190 Blvd. Haussmann, Paris, France.

TRAWLING:

Our Observation on the Behavior of the Trawl in Water, by N. A. Lyapin, OTS60-51080, 6 pp., illus., processed, 50 cents. (Translated from the Russian Rybnoe Khoziaistvo, vol. 35, no. 2, 1959, pp. 43-46.) Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C.

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Trawl Mesh Regulation in the Strait of Georgia, by K. S. Ketchen, Circular No. 61, 16 pp., printed. Fisheries Research Board of Canada, Biological Station, Nanaimo, B.C., Canada, 1961.

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"Physical Characteristics and Chemical Composition of Two Subspecies of Lake Trout," by Claude E. Thurston, article, Journal of the Fisheries Research Board of Canada, vol. 19, no. 1, 1962, pp. 39-44, illus., printed, Queen's Printer and Controller of Stationery, Ottawa, Canada.

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"Fundamental Studies on the Prevention of Discoloration of Frozen Yellow-Fin Tuna Meat," by K.

Tanaka, article, Refrigeration, vol. 36, no. 409, November 1961, pp. 1-17, printed. Japanese Association of Refrigeration, Kenchiku Kaikan Bldg., 3-1 Ginza Nishi, Chuo-ku, Tokyo, Japan.

Measures of Population Density and Concentration of Fishing Effort for Yellowfin and Skipjack Tuna in the Eastern Tropical Pacific Ocean, 1951-1959, by Thomas P. Calkins, Inter-American Tropical Tuna Commission Bulletin, vol. 6, no. 3, 1961, 84 pp., illus., printed in English and Spanish. Inter-American Tropical Tuna Commission, La Jolla, Calif. The primary objective of this study is to compute two indices of population density and an index of concentration of fishing effort of tuna bait boats for skipjack alone and for yellowfin and skipjack combined and to examine the quarterly and annual variations in these indices. Secondary objectives are to examine the relationship between these indices and the dispersal of the fishery, and to demonstrate the seasonal changes in the geographical distribution of the catch-per-unit-of-effort in the skipjack fishery. The report discusses the source and routine processing of data, and the calculation of the indices. Then for skipjack alone and for yellowfin and skipjack combined, it discusses the quarterly variations in the indices of density and index of concentration; relationship between weighted and unweighted indices of density. For skipjack, the report analyzes the seasonal changes in the geographical distribution of catch-per-standardized-day's-fishing.

La Peche du Thon a la Longue-Ligne--Ses Possibilites dans les Eaux Voisines de la Nouvelle-Caledonie (Tuna Long-Line Fishing--Its Possibilities in the Neighboring Waters of New Caledonia), by Michel Angot and Rene Criou, 31 pp., illus., processed in French. Office de la Recherche Scientifique et Technique Outre-Mer, 20, rue Monsieur, Paris 7^e, France, September 1959.

"La Peche du Thon a Madagascar," Tuna Fishing in Madagascar, by A. Crosnier and P. Fourmanoir, article, Bulletin de Madagascar, vol. 11, no. 185, October 1961, pp. 867-891, illus., printed in French. M. le Directeur de l'Imprimerie Nationale, Tananarive, Madagascar.

Possibilites de Peche Artisanale du Thon en Nouvelle-Caledonie (Possibilities for a Tuna Fishery in New Caledonia), by R. Criou, 26 pp., illus., processed in French. Office de la Recherche Scientifique et Technique Outre-Mer, 20, rue Monsieur, Paris 7^e, France, June 1959.

A Review of Present Knowledge Relative to a Possible Tuna Fishery in New Zealand, by M. K. McKenzie, Fisheries Technical Report No. 4, 49 pp., illus., processed. New Zealand Marine Department, Wellington, New Zealand, 1962. Discusses the biology of the main species of tuna found in New Zealand, their size, distribution, season, and fishing methods used; exploratory cruises made to locate tuna concentrations; recent work done in oceanography in the Tasman Sea and coastal waters of New Zealand; and tuna boats and fishing gear. Includes also figures charting the probable distribution of the tuna species below the surface of the sea, as well as data on water temperatures. The author says northern bluefin

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is known to occur in New Zealand, striped tuna occurs in spring and autumn in the northern half of the North Island, yellowfin occurs in the summer in northern latitudes, albacore in the summer and autumn in the North Island, and southern bluefin in the spring and autumn.

Spawning of Yellowfin Tuna and Skipjack in the Eastern Tropical Pacific, as Inferred from Studies of Gonad Development, by Craig J. Orange, Inter-American Tropical Tuna Commission Bulletin, vol. 5, no. 6, 1961, 68 pp., illus., printed in English and Spanish. Inter-American Tropical Tuna Commission, La Jolla, Calif.

Tuna Fishing in Australia and Its Possible Application in New Zealand, by W. G. Sampson, Fisheries Technical Report No. 5, 43 pp., illus., processed. New Zealand Marine Department, Wellington, New Zealand, 1962. Discusses Australian tuna clippers, their fundamental requirements and special equipment; live bait tanks and holding pens, their construction and equipment; methods of capture and care of live bait fish; searching and fishing for tuna; and handling and storage of tuna on board ship. Includes illustrations of equipment used and structural and miscellaneous details on Australian tuna vessels (pole fishing).

Tuntsy i drugie ob'ekty tuntsovogo promysla (Tunas and Other Objects of the Tuna Fishery), by V. L. Zharov, Iu. L. Karpechenko, and G. V. Martinsen, 114 pp., illus., printed in Russian, 49 kop. (about 60 U.S. cents). VNIRO Glavniproekta, pri Gosplanie, SSSR, Moscow, U.S.S.R., 1961. The book consists of two sections entitled: "The Description of Tunas and other Objects of the Tuna Fishery" and "The Catch Statistics of the Objects of the Tuna Fishery." The following groups of fish are considered by the authors to be the objects of the tuna fishery: scombroids (tunas and mackerel-like fish), the billfish and the barracouta. Identification keys for various groups of fish are scattered throughout the book. Each species is illustrated by a text figure. The brief description of each species includes information on the following: common names in various languages, synonymy, size, habits, geographical distribution, methods of capture, economical importance, as well as the form in which the species is utilized. The statistical portion of the book contains information on the catch of various fish dealt with in the first section, containing tabulations with a world-wide coverage for the catch of various countries for the years 1938 and 1947 through 1958.

—W. L. Klawe, Senior Scientist,
Inter-American Tropical Tuna Commission

Year Class Abundance, Mortality and Yield-Per-Recruit of Yellowfin Tuna in the Eastern Pacific Ocean, 1954-1959, by Richard C. Hennemuth, Inter-American Tropical Tuna Commission Bulletin, vol. 6, no. 1, 1961, 51 pp., illus., printed in English and Spanish. Inter-American Tropical Tuna Commission, La Jolla, Calif.

TURKEY:

Balik ve Balikcilik (Fish and Fishery), vol. 10, no. 5-6, May-June 1962, 31 pp., illus., printed in Turkish with English table of contents. Balikcilik Mudurlugu, Besiktas, Istanbul, Turkey. Includes, among

others, the following articles: "Oils Utilized in Canned Fish Industry and Their Standardization;" "Main Features of Fishery Financing in Japan;" "Tuna Long-Line Fishing at Marmara and Preparations of the Materials;" and "Seasonings Utilized in Preparations of Fish Products."

UNITED KINGDOM:

Scottish Sea Fisheries Statistical Tables, 1961, 50 pp., printed, 5s. 6d. (about 76 U.S. cents). Department of Agriculture and Fisheries for Scotland, St. Andrew's House, Edinburgh 1, Scotland, 1962. (Available from Her Majesty's Stationery Office, 13a Castle St., Edinburgh 2, Scotland.) Contains 27 statistical tables showing quantity and value of fish landed and processed, number of vessels and fishermen, and creek returns. Tables 1 through 19 cover quantity and value of fish landed in the United Kingdom and Scotland by British and foreign vessels; landings of British vessels according to methods of fishing, 1938-1961; quantity and value of each kind of fish landed in each district by various types of British vessels; quantity of each kind of fish landed by foreign vessels from each fishing region; and quantity and value of fish landed by foreign vessels by each nationality. They also cover seasonal landings of herring fishing; quantity of each kind of fish landed from and expenditure of fishing effort in each fishing region; and quantity and value of each kind of fish landed by British vessels, 1913, 1938, and 1954-1961. Tables 20 through 22 show quantity and value of processed fish, including herring and white fish. Tables 23 through 26 show fishing vessels by type and district; fishermen employed; and greatest number of vessels and persons employed in the herring fishery. The last table gives data on the number of vessels and fishermen and quantity and value of fish landed in creeks.

Sea Fisheries Statistical Tables, 1961, 44 pp., printed, 5s. (about 70 U.S. cents). Ministry of Agriculture, Fisheries and Food, London, England, 1962. (Available from Her Majesty's Stationery Office, York House, Kingsway, London WC2, England.) Consists of statistical data showing the quantity, value, and average value of fish and shellfish landed in England and Wales by species, region, and method of capture. The different kinds of fish are divided into three main groups: demersal, pelagic, and shellfish. Also includes data on number of fishermen and fishing vessels employed as well as quantity and value of exports and imports, 1960-1961, by kinds and countries.

White Fish Authority, Annual Report and Accounts for the Year Ended 31st March 1962, 57 pp., printed, 3s. 6d. (about 50 U.S. cents). Her Majesty's Stationery Office, York House, Kingsway, London WC2, England. Discusses the activities and functions of the White Fish Authority for the fiscal year ending March 31, 1962, its income, expenditures, and fishery loans. Includes sections on production of fishery products; marketing and distribution; research and experiments undertaken; training courses for fishermen; and investigations into the costs and earnings of inshore fishermen. Also includes statistical tables on distribution of trawlers; rebuilding of fleets; interest rates charged by the Authority on loans; and a summary of white fish imports.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

UNITED STATES GOVERNMENT:

United States Government Organization Manual, 1962-63, 766 pp., illus., printed, \$1.50. Office of the Federal Register, National Archives and Records Service, Washington, D. C., June 1, 1962. (For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D. C.) The official organization handbook of the Federal Government. Contains sections descriptive of the agencies in the legislative, judicial, and executive branches. Supplemental information includes brief descriptions of quasi-official agencies, selected multilateral international organizations, selected bilateral organizations, charts of the more complex agencies, and appendices relating to abolished and transferred agencies, and to governmental publications. Also describes the agencies connected with fisheries: U.S. Fish and Wildlife Service, Bureau of Commercial Fisheries, and Bureau of Sport Fisheries and Wildlife.

U.S.S.R.:

The Pre-Conventional Fishing (Japanese and Russian Fisheries), English translations of fishery literature, miscellaneous series no. 322, 39 pp., processed. U. S. Department of the Interior Library, Washington 25, D. C.

Results of Three Years of Observations on Fish Below the Lenin Hydroelectric Station on the Volga, by A. Diuzhikov, Translation Series No. 363, 16 pp., processed. (Translated from the Russian *Voprosy Ikhtologii*, vol. 1, no. 1(18), 1961, pp. 69-78.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B.C., Canada, 1961.

Some Theoretical Results of Investigations by the Murmansk Biological Station. The Hydrological, Hydrochemical and Biological Features of the Region Investigated, by M. M. Kamshilov, 18 pp., processed. (Translated from the Russian *Regular Features of the Concentration and Migrations of Commercial Fishes in the Coastal Zone of Murman, 1958*, pp. 259-269.) Ministry of Agriculture, Fisheries and Food, Fisheries Laboratory, Lowestoft, Suffolk, England, 1961.

VESSELS:

"Refrigerated Ship *Tavriya* for the Freezing and Transport of Fish," by L. R. Kozyrchuk and E. C. Yusupov, article, *Sudostroenie*, vol. 27, no. 3, 1961, pp. 1-3, illus., printed in Russian. Soviet Ministrov SSSR, Sudpromgiz, Suvorovski, Leningrad S-15, U.S.S.R.

WEATHER CHARTS:

Coastal Warning Facilities Chart, Hawaiian Islands, 1962, 2 pp., processed, 10 cents. Weather Bureau, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) The chart shows stations displaying small craft, gale, whole gale, and hurricane warnings, explanation of warning displays and schedules of AM and FM radio and TV stations that broadcast weather forecasts and warnings.

Small Craft, Gale and Whole Gale Warning Facilities Chart, Great Lakes: Huron, Erie, and Ontario, 1962, 2 pp., processed, 10 cents. Weather Bureau, U. S.

Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) This chart shows stations displaying small craft, gale, whole gale, and hurricane warnings, explanation of warning displays, and schedules of AM and FM radio and TV stations that broadcast weather forecasts and warnings.

WHALES:

The Biology and Hunting of Beluga or White Whales in the Canadian Arctic, by D. E. Sargeant, Circular No. 8, 15 pp., printed. Fisheries Research Board of Canada, Arctic Unit, Montreal, Canada, 1962.

The Biology of the Pilot or Pothead Whale in Newfoundland Waters, by D. E. Sargeant, Bulletin No. 132, printed, C\$1. Fisheries Research Board of Canada, Ottawa, Canada. (For sale by the Queen's Printer and Controller of Stationery, Ottawa, Canada.)

Whales and Dolphins of the Canadian East Coast, by D. E. Sargeant, Circular No. 7, 27 pp., printed. Fisheries Research Board of Canada, Arctic Unit, Montreal, Canada, 1961.

WHALING:

International Whaling Statistics, no. XLVII, 77 pp., printed, Kr. 2.00 (about 28 U.S. cents). The Committee for Whaling Statistics, Oslo, Norway, 1962. A report on the results of the whaling operations in the Antarctic during the season 1959/60 and on grounds outside the Antarctic in the calendar year 1960. Includes statistical tables on whaling in the Antarctic; whaling operations of Norway, the United Kingdom, Japan, and the U.S.S.R.; whaling results for various other countries; average size of whales caught; and whales caught by species, sex, and size. Also includes data on average production of oil per "blue-whale equivalent;" average production of oil per sperm-whale; and whale fetuses measured.

"New Whaling Fleet in Venture off British Columbia Coast," by Bruce Woodland, article, *Trade News*, vol. 14, no. 12, June 1962, pp. 7-8, illus., printed. Department of Fisheries, Ottawa, Canada. Describes the revival of whaling on Canada's west coast with the departure of British Columbia's largest-ever whaling fleet. The sailing was the first since 1959, when the Pacific Coast industry halted whaling operations because of poor markets.

WORLD TRADE:

The following World Trade Information Service Report, published by the Bureau of Foreign Commerce, U. S. Department of Commerce, Washington, D. C., is for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., at 10 cents a copy.

Licensing and Exchange Controls, Australia, Operations Report No. 62-36, WTIS Part 2, 5 pp., printed, June 1962.

The following printed World Trade Information Service Reports, published by the Bureau of International Programs, U. S. Department of Commerce, Washington, D. C., are for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

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Import Tariff System of Colombia, Operations Report No. 62-34, WTIS Part 2, 4 pp., 10 cents, June 1962.

Import Tariff System of Ghana, Operations Report No. 62-32, WTIS Part 2, 2 pp., 10 cents, June 1962.

Import Tariff System of Pakistan, Operations Report No. 62-35, WTIS Part 2, 2 pp., 10 cents, June 1962.

Licensing and Exchange Controls--France, Operations Report No. 62-33, WTIS Part 2, 8 pp., 10 cents, June 1962.

Licensing and Exchange Controls--Republic of Guinea, Operations Report No. 62-27, WTIS Part 2, 4 pp., 10 cents, May 1962.

ZOOPLANKTON:

Sound Scattering Layers and the Vertical Distribution of Zooplankton and Fish in the Sea, by K. V. Beklemishev, Trans-109, 23 pp., processed. (Translated from the Russian Uspekhi Sovremennoi Biologii, vol. 41, no. 1, 1956.) U. S. Navy Hydrographic Office, Washington, D. C., 1962.

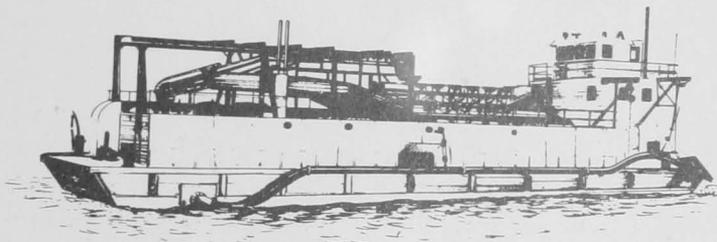
CORRECTION

In the July 1962 issue, page 130, under the heading: INTERNATIONAL COMMISSIONS, a review of the "Report by the President on the Ninth Meeting of the Permanent Commission Held in Copenhagen, May 1961," showed the wrong address for the Commission. The correct address is: Office of the Permanent Commission, East Block, Whitehall Place, London SW1, England. The Commission's financial year 1960 ended on 30th June and not 30th July as reported in the Review.



SUCTION DREDGE

This is a special type of capturing device used almost solely in the oyster industry. The oysters are removed from the bottom and brought to the surface by action of suction applied to the dredge head which is connected to a power pump on board the dredge vessel.



Suction dredge.

Note: Excerpt from Circular 109, Commercial Fishing Gear of the United States, for sale from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., single copy, 40 cents.

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